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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/410,367	09/30/1999	JEFFREY D. SAFFER	01413.0009	6759

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EXAMINER	
DASTOURI, MEHRDAD	
ART UNIT	**PAPER NUMBER**
2623	19

DATE MAILED: 08/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/410,367	SAFFER ET AL.	
	Examiner	Art Unit	
	Mehrdad Dastouri	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 May 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17,19 and 63-67* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17,19 and 63-67* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *18* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 23, 2003 has been entered.

Response to Amendment

2. Applicants' amendment filed May 23, 2003, has been entered and made of record.

3. Applicants' arguments have been fully considered but they are moot in view of new grounds of rejection.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 6, 8, 12, 14, 15 and 65-67 are rejected under 35 U.S.C. 102(b) as being anticipated by Clark et al (U.S. 5,574,837).

Regarding Claim 1, Clark et al disclose a method for analyzing data for different data types, comprising:

selecting a set of attributes associated with an object, wherein the attributes selected comprise a plurality of data types selected from a group consisting of a text data type, a numerical data type, a categorical data type, and a sequence data type (Figures 3 and 4; Column 3, Lines 25-67, Column 4, Lines 1-62. Code segments f_0, f_1 and f_2 are objects having attributes identified by identifiers (I) and types (T). The attributes are comprised of text data type (Relation, Name) as well as numerical data types (Age));

transforming the selected attributes into n-dimensional vectors (Figure 2-6; Column 4, Lines 23-63. Vector (T) is an n-dimensional vector that represents attributes identified and labeled (transformed) from each code segment.);

applying transformation operations to the selected attributes (Figures 2-6; Column 4, Lines 23-67, Column 5, Lines 1-39. The selected attributes are transformed by applying weighting factors.);

indexing the n-dimensional vector, certain attributes, and a result of the transformation operations (Column 4, Lines 36-62); and

displaying a representation of the object based on the selected attributes (Figure 5; Column 5, Lines 40-67, Column 6, Lines 1-37).

Regarding Claim 2, Clark et al disclose a computer-implemented method of analyzing various data types, comprising the steps of:

defining a uniform data structure for representing objects of different

data types (Figures 2 and 3; Column 2, Lines 49-67, Column 3, Lines 1-54. Reference is made to U.S. Patent 5,953,006 to Baker et al (Patent Application Serial Number 07/853,459) incorporated by reference in Clark et al invention.);

segmenting certain attributes of a plurality of different objects of different data types into elements that are representable in said uniform data structure (Figures 2-6; Column 3, Lines 55-67, Column 4, Lines 1-62); and

operating on said certain attributes to produce at least one representation of said objects based on said uniform data structure (Figures 2-6; Column 4, Lines 22-62).

Regarding Claim 3, Clark et al further disclose the method of Claim 2 wherein said plurality of different data types comprises a combination of any two of numeric, sequence string, categorical, or text data types (Column 4, Lines 22-35. Code segments comprise a combination of Text and Numeric data type (T).).

Regarding Claim 6, Clark et al further disclose the method of Claim 2 wherein said step of operating on said selected attributes produces a vector representation of said objects in correspondence with said uniform data structure (Figure 2-6; Column 4, Lines 22-62).

Regarding Claim 8, Clark et al disclose the method of Claim 6 wherein the data representations are vector representations (Figures 2-6; Column 4, Lines 22-35).

Regarding Claim 12, Clark et al further disclose the method of Claim 2 wherein said step of segmenting comprises creating a plurality of said elements from a sequence of string sequence data (Figures 2-6; Column 3, Lines 25-67, Column 4, Lines 1-62).

Regarding Claim 14, Clark et al further disclose the method of Claim 2 further comprising using said representation to identify cluster groups of related objects (Figures 2-6; Column 3, Lines 55-67, Column 4, Lines 1-62).

Regarding Claim 15, Clark et al further disclose the method of Claim 2 further comprising creating two-dimensional projections of cluster groups for two dimensional visualizations (Figure 5, Cluster information f_0, f_1 and f_2; Column 5, Lines 40-67, Column 6, Lines 1-37).

With regards to Claims 65-67, arguments analogous to those presented for Claim 1 are applicable to Claims 65-67. Concerning Claims 66 and 67 for analyzing genomic sequence data, reference is made to U.S. Patent 5,953,006 to Baker et al (Patent Application Serial Number 07/853,459) incorporated by reference in Clark et al invention.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark et al (U.S. 5,574,837) in view of Strasnick et al (U.S. 5,671,381).

Regarding Claim 4, Clark et al do not explicitly disclose the method of Claim 3 wherein said plurality of different data types comprise a combination of any three of numeric, reference string, categorical, and text data types.

Strasnick et al disclose a method for visualization of different data types comprising a combination of numeric, reference string, categorical, and text data types (Figures 2A, 10A, 10B and 11; Column 6, Lines 34-67, Column 7, Lines 1-8; Column 20, Lines 34-48. The visualized data types in Figures 2A and 10B comprise a combination of numeric, reference string, categorical, and text data types.).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Clark et al invention according to the teachings of Strasnick et al to provide visualization of different data types comprising a combination of numeric, reference string, categorical, in text data types because it will expand versatility of visualization system and improve decision making in research analysis.

Regarding Claim 5, Clark et al do not explicitly disclose the method of Claim 4 wherein said data types comprise numeric, sequence string, categorical and text data types.

Strasnick et al disclose a method for visualization of different data types comprising a combination a combination of a numeric data type, a sequence string data type, a categorical data type and a text data type (Figures 2A, 10A, 10B and 11; Column 6, Lines 34-67, Column 7, Lines 1-8; Column 20, Lines 34-48. The visualized data types in Figures 2A and 10B comprise a combination of numeric, sequence string, categorical, and text data types.).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Clark et al invention according to the teachings of Strasnick et al to provide visualization of different data types comprising a combination of numeric, sequence string, categorical and text data types because it will expand versatility of visualization system and result in making enhanced research decisions.

8. Claims 7, 9-11,16, 17, 19, 63 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark et al (U.S. 5,574,837) in view of J.C. Roberts (IEEE Paper; On Encouraging Multiple Vies for Visualization).

Regarding Claim 7, Clark et al do not explicitly disclose the method of Claim 2 further comprising producing an index that includes second representations of non-selected attributes of a particular object and associating the non-selected attributes with a particular representation of said first representations.

Roberts discloses a system for multiple views visualization comprising producing an index that includes second representations of non-selected attributes of a particular object and associating the non-selected attributes with a particular representation of the first representations (Figures 2-4 and 7A-E; Sections 3.1 and 4. Figures 7B, 7C and 7D visualize the surface image features of the block of material, feature sets of different pressures in the block and different pressure sets, respectively, associated to each other.).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Clark et al invention according to the teachings of J.C. Roberts to produce an index that includes second representations of non-selected

attributes of a particular object and associating the non-selected attributes with a particular representation of the first representations because it will improve analyzing the features of different data by expanding sampling of the data population.

Regarding Claim 9, J.C. Roberts further disclose the method of Claim 2 further comprising using a first set of selected attributes associated with a first set of objects to determine the relationships among the first set of objects of a particular data type and using non selected attributes associated with the first set of selected attributes to correlate objects represented by the first set of selected attributes with a second set of objects represented by a second set of selected attributes (Figures 2-4 and 7A-E; Sections 3.1 and 4. Figures 7B, 7C and 7D visualize the surface image features of the block of material, feature sets of different pressures in the block and different pressure sets, respectively, associated to each other. Furthermore, feature sets of different pressures in the block depicted in Figure 7C will be correlated with the result of pressure feature sets in the air (second object).).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Clark et al invention according to the teachings of J.C. Roberts to implement further limitations of Claim 9 because it will improve analyzing the features of different data by expanding sampling of the data population.

Regarding Claim 10, J.C. Roberts further disclose the method of Claim 9 further comprising identifying, using said non selected attributes, at least one object of said second set of objects that corresponds to a selected object or objects of said first set of objects (Figures 5, 6 and 7A-7E)-.

Regarding Claim 11, J.C. Roberts further disclose the method of Claim 10 further comprising displaying said first and second set of objects in first and second windows on a display screen and highlighting said second set of objects that corresponds to said selected object or objects (Figures 5 and 7C. Figure 7C depict the stationary block of material and the air are displayed and highlighted in different windows.).

With regards to Claim 16, arguments analogous to those presented for Claims 2 and 9 are applicable to Claim 16. J.C. Roberts further disclose "displaying first graphical results of a first type analysis performed on selected attributes of a first data set" and "displaying second graphical results of a second type analysis performed on selected attributes of a second data set" as depicted in Figure 7 and Section 4 for 'multiple viewing visualization".

Regarding Claim 17, J.C. Roberts further disclose the method of Claim 16 wherein said step of highlighting is based on attributes not used for creating said first graphical results (Figures 7C and 7D).

With regards to Claim 19, arguments analogous to those presented for Claims 2, 6 and 9 are applicable to Claim 19.

With regards to Claims 63 and 64, arguments analogous to those presented for Claim 16 are applicable to Claims 63 and 64.

9. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clark et al (U.S. 5,574,837) in view of Magdi Mohamed et al (IEEE Pattern Analysis and Machine Intelligence; Handwritten Word Recognition Using Segmentation-Free Hidden Markov Model and Segmentation-Based Dynamic Programming Techniques).

Regarding Claim 13, Clark et al do not explicitly disclose the method of Claim 12 wherein said step of segmenting comprises selecting words of a text document that meet certain preselected criteria.

Magdi Mohamed et al disclose a handwritten word recognition using segmentation based Dynamic Programming wherein the step of segmenting comprises selecting words of a text document that meet certain preselected criteria (Pages 8 and 9, Sections IIIA and IIIB, Segmentation and Dynamic Programming matching; Figure 5).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Clark et al invention according to the teachings of Magdi Mohamed et al to consider a step of segmenting comprises selecting words of a text document that meet certain preselected criteria because it will provide an advanced analyzing system and improve capability of the recognition system to achieve significantly better performance.

Other prior art cited

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 5,553,006 to Baker et al;

U.S. Patent 5,699,507 to Goodnow, II et al;

U.S. Patent 6,493,709 to Aiken.

Contact Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mehrdad Dastouri whose telephone number is (703)

305-2438. The examiner can normally be reached on Monday to Friday from 8:00 a.m. to 4:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the T.C. Customer Service Office whose telephone number is (703) 306-0377.

Mehrdad Dastouri

Mehrdad Dastouri
Primary Examiner
Group Art Unit 2623
August 5, 2003